

In contrast, Hong clearly describes a structure whereby its ARC film 124 is formed after the barrier metal layers 125, 126 are formed on the poly plug 116. See Fig. 1A and column 2, lines 56-59. After the barrier metal layers 125, 126 are formed, a CMP process is carried out to planarize the ARC layer 124 and barrier metal layer 126 as shown in Fig. 1A and described at column 3, lines 4-6. Then, a planar seed layer 130 is deposited on the entire structure as shown in Fig. 1B. Because of the planarization required, the seed layer 130 does not have a lower surface below the upper surface of the ARC layer 124 as required by claim 1.

In contrast to Hong, even if a titanium silicide film and a barrier layer are formed on the exposed plug (see the present specification from page 7, line 31 through page 8, line 17), the seed separating layer 45 is formed after the plug 44 is filled and the seed separating layer 45 is etched back to define an open region surrounding the connecting part 44 which is filled in by the subsequent deposition of the seed layer 46. See Fig. 3A and the present specification at page 8, lines 24-33. Thus, regardless of whether a titanium silicide film and barrier layer are utilized, the lower surface of the seed layer 46 will always be disposed below the upper surface of the seed separation layer 45. This structure is not taught or suggested by Hong. As a result, Hong cannot anticipate the structure of claim 1 and applicants respectfully submit that the anticipation rejection of claims 1-12 is improper and should be withdrawn.

Further, the structure of claim 1 is not taught or suggested by Hong either. Specifically, Hong clearly teaches the planarization of the ARC layer 124 and barrier metal layer 126 at column 3, lines 4-6 and in Figs. 1A-1H. Still further, Hong does not teach the formation of the ARC film 124 without the barrier metal layer 126 in place. See column 2, lines 56-59. Then, Hong teaches the deposition of the seed layer 130 on the planarized surface presented by the ARC film 124 and barrier metal layer 126. Column 3, lines 8-10.

Therefore, in no way does Hong teach or suggest a seed layer 130 that has a lower surface disposed below an upper surface of the ARC layer 124 and therefore Hong in no way teaches or suggests the structure of claim 1.

Because Yu is merely cited for the proposition that it discloses a nitride layer of specific thickness and further because Lin is merely cited for the proposition that it disclosed titanium nitride as an oxygen diffusion barrier, neither of these two

references can be combined with Hong to teach or suggest the structure of amended claim 1.

Therefore, applicants respectfully submit that amended claim 1 is clearly allowable over any hypothetical combination of Hong, Lin and Yu and therefore claims 1-12 are all allowable over any hypothetical combination of these references.

Applicants respectfully submit that this application is in a condition for allowance and an early action so indicating is respectfully requested.

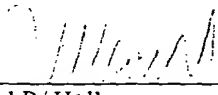
The Commissioner is authorized to charge any fee deficiency required by this paper, or credit any overpayment, to Deposit Account No. 13-2855.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES

In the Specification:

The paragraph beginning on page 9, line 1 has been replaced with the following rewritten paragraph:

--Then the upper [face] surface of the seed layer 46 is flattened by carrying out a CMP or an etch-back. That is, the upper surface seed layer 46 is made higher than the upper surface seed separating layer 45 as shown in [the drawing] Fig. 3A, or [is] it may be planarized with the upper surface of the seed separating layer 45 but preferably, the upper surface of the seed layer 46 is disposed above the seed separating layer 45. However, a lower surface of the seed layer 46 is disposed below the upper surface of the seed separating layer 45.--

In the Claims:

Claim 1 has been amended, as follows:

1. (Twice Amended) A semiconductor device comprising:

a substrate coated with an insulating layer;

a connecting part connected to a conductive layer through the insulating layer of the substrate, the connecting part having an upper surface;

a seed separating layer formed around the connecting part and the insulating layer, the seed separating layer defining an open region that exposes at least part of the connecting part, the seed separating layer having an upper surface disposed above the upper surface of the connecting part;

a seed layer disposed in the open region of the seed separating layer and covering a first portion of the seed separating layer, the seed layer having an upper surface disposed above the upper surface of the seed separating layer and a lower surface that engages connecting part and that is disposed below the upper surface of the seed separating layer; and

a capacitor comprising a lower electrode formed on the seed layer, a dielectric medium formed on the lower electrode and further covering a second portion of the seed separating layer, and an upper electrode formed on the dielectric medium.